

# Accessing the MINOS Underground Area

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## Types of Access:

### ○ **Finite Work Permit (FWP):**

- Work for a specific job
- Issued with an expiration date
- Will determine if HA or any other permit is needed
- Required for work on:
  - Electrical work
  - Work at heights above 4 ft
  - Work with Chemicals:
    - Flammables
    - Combustibles
    - Hazardous
    - Lead
  - Cryogenics work
  - Mechanical work:
    - Shaft crane
    - Hall Crane
    - Fork truck
    - Lifts
  - Welding
  - Networking or Control systems
    - Ethernet Service
    - ACNET service
    - Phone System
  - Water or cooling systems work:
    - LCW skid
    - Cooling water pumps
    - Sump pumps
    - Fan coil units
  - Safety Systems<sup>1</sup>
    - Elevators
    - Lighting system
    - Fire protection system
    - Ventilation System

### ○ **Standing Work Permit (SWP):**

- A work permit will be issued to each experiment and FESS<sup>2</sup> such that work can be performed by a predetermined list of people to their own equipment (resetting electronics, etc.)
- This DOES include turning off power to a rack or crate or High voltage power supply to make repairs or replacements
- This does NOT include any work on services, such as:
  - Power (no flipping of breakers)
  - Water systems (LCW, or Ground)

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<sup>1</sup> Fire Dept has leave to go down at their disposal

<sup>2</sup> FESS already has a system in place to notify the Underground Coordinator when they access the underground to perform work. It's easier to give them a standing work permit.

- Air systems
- Networking or control system
- **Visual Inspections:** – (do not require work permit)
  - Inspections include taking pictures or notes (keep your hands in your pockets)
  - Inspections do NOT include:
    - Manipulating breakers
    - Resetting electronics
    - Manipulating valves
    - Turning on/off magnets
- **Tours (TP):**
  - Work as they have in the past

To obtain an elevator key from the WH12NW ctrl rm you must have:

- ✓ An Approved Permit Number
- ✓ Up-to-date NuMI Underground Safety training
- ✓ GERT, Radworker or RCT
- ✓ Hard hat
- ✓ Flashlight
- ✓ Closed-toed flat shoes
- ✓ Buddy

[Underground Coordinator:](#)

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## Notes:

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- Maintenance Issues will be divided between Standing Work Permits and Finite Work Permits
- Long term keys could be issued for the length of the finite work permit.
- Finite WP and TP need only list a number of people
- Standing Work Permits should contain lists of personnel able to use the permit number.
- **Override is available in case of emergency**

### *Upstream Absorber Areas:*

- The area upstream of the Elephant doors is under Accelerator Division supervision. AD personnel needing to access this area should inform Mike Andrews, and indicate AD in the key log.

### *How it Works:*

- The shifter would input Key#, ID #, and permit # into a program which would check:
  - Training of the ID#
  - Approval status of the permit
  - The ID# matches the permit#, where applicable
- If permission returns false, shifter should contact the Underground Coordinator.
- Program should allow for multiple work permits.
- Permission will be denied if
  - All keys allowed by the WP have already been signed out (for FWP)
  - ID is not in WP allowed list. (for SWP)
  - WP or TP is not Approved (or has expired)
- When a WP expires any keys logged out under that permit will be brought to shifter's attention.